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PROPOSED DECISION

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Decision **PROPOSED DECISION OF COMMISSIONER PETERMAN**

(Mailed 2/10/2016)

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Consider
Roadway Worker Protections by Transit
Agencies in California.

Rulemaking 09-01-020
(Filed January 29, 2009)

DECISION ADOPTING GENERAL ORDER 175-A FOR ROADWAY WORKER PROTECTIONS ON CALIFORNIA'S RAIL TRANSIT SYSTEMS

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ATTACHMENTS

Attachment A: The Proposed General Order 175-A

Attachment B: Index of Comments Seeking Clarification, including Corrections

Attachment C: Redlined Version of the Proposed General Order 175-A
showing all revisions from the Interim GO

Attachment D: NTSB Recommendation to the FTA, dated December 19, 2013

Attachment E: NTSB Railroad Accident Brief, dated April 13, 2015

DECISION ADOPTING GENERAL ORDER 175-A FOR ROADWAY WORKER PROTECTIONS ON CALIFORNIA'S RAIL TRANSIT SYSTEMS**Summary**

Today's decision reaffirms our continuing commitment to the safety principles of independent redundancy, culture and management, adopts California's roadway worker protection (RWP) and safety rules, General Order (GO) 175-A (Attachment A to this decision), and closes the proceeding. GO 175-A applies to California's roadway workers and rail transit agencies (RTAs) and supersedes GO 175.

In October of 2013, pending before the Commission was a proposed decision to adopt a proposed RWP GO (Proposed GO). Then on October 19, 2013, two Bay Area Rapid Transit District (BART) employees were struck and killed (2013 BART Accident). On October 31, 2013, the Commission issued Decision (D.) 13-10-073 and adopted GO 175 (the Interim GO). D.13-10-073 also left this proceeding open to afford the parties additional opportunity to comment on the Interim GO and consider further safety refinements to it, based on lessons learned from its initial implementation as well as the findings from the investigation of the 2013 BART Accident.

The RTAs have operated under the requirements of the Interim GO since its adoption in October 2013. Based on their experiences under the Interim GO, we conclude that most of the Interim GO provisions do not require further refinements or revisions. The RTAs do, however, request some substantive revisions, as well as clarifications to some of the provisions.

The National Transportation Safety Board (NTSB) also completed its investigation of the 2013 BART Accident. The NTSB's findings support the Commission's approach to safety taken in the Interim GO and the Interim GO's emphasis on independent safety redundancy and safety culture/management.

In particular, the NTSB's findings acknowledge that human factors (e.g. fallibility, disability, incapacity, error, etc.) should be anticipated in the safety rules; thus, independent layers of safety requirements must be designed into the safety programs as part of the RTAs' safety culture and management.

Based thereon, we reviewed and are now making the necessary updates and refinements to the Interim GO provisions. These updates are reflected in the GO 175-A adopted by this decision. GO 175-A retains the majority of the Interim GO provisions and incorporates new and modified provisions, where appropriate, that (1) reinforce independent safety redundancy as well as safety culture and management; (2) clarify to eliminate ambiguity; and (3) add flexibility to adapt the requirements to fit with differing operational systems. GO 175-A also incorporates other minor, clerical and otherwise non-substantive corrections.

This proceeding shall remain open for the limited purposes of the Commission's consideration of any recommendation by the Safety and Enforcement Division concerning possible amendment(s) to GO 175-A and GO 172 and for the Commission to issue a subsequent decision addressing the recommendation(s) and closing the proceeding.

1. Background

1.1. Order Instituting Rulemaking

Federal roadway worker safety regulations have been in place since 1997 to provide for the safety of the workers employed by the nation's freight railroads, intercity passenger railroads, or commuter railroads.¹ However, those federal regulations do not apply to protect California's rail transit agencies' (RTAs) roadway workers - the men and women who perform the maintenance

¹ Federal Railroad Administration's Roadway Worker Protection Regulations in 1997, 49 C.F.R. Part 214 C.

and repair work on or near the California rail tracks. Their work is extraordinarily hazardous and requires high level of situational awareness of trains, surroundings, peers and roadway workers' tasks. Between 1997 and 2008, there were 40 rail roadway worker fatalities nationwide.

In 2009, the Commission issued this Order Instituting Rulemaking (OIR) following two separate roadway worker fatalities involving Bay Area Rapid Transit (BART) and Sacramento Regional Transit District (SRTD). The purposes of the OIR were to develop and adopt ~~a~~California's RTAs' roadway worker protection (RWP) and safety rules.

Multiple rounds of comments were filed in response to the OIR. The Commission's Safety and Enforcement Division (SED) staff (Staff) held workshops, conducted investigations, and reviewed and analyzed 12 roadway worker accidents to serve as the foundation for the SED's initial set of recommendations to the Commission.² On October 19, 2012, the SED submitted its recommendations (2012 Recommendation), including a proposed set of RWP and safety rules, the Proposed General Order (Proposed GO).

² The SED analyzed BART's roadway worker fatality of October 14, 2008; SRTD's roadway worker fatality of July 24, 2008; BART's roadway worker fatality of January 12, 2001; Chicago Transit Authority's roadway worker fatality of February 26, 2002; Massachusetts Bay Transportation Authority's roadway worker fatality of January 9, 2007; New York City Transit's roadway worker fatalities of April 24, 2007, and April 29, 2007; and Washington Metropolitan Area Transportation Authority's roadway worker fatalities on August 9, 2009, November 30, 2006, and May 14, 2006.

1.2. Interim GO

[On](#) October 31, 2013, the Commission adopted the Proposed GO with some modifications, as General Order (GO) 175 (the Interim GO). It has since been in effect and applies to California RTAs' roadway workers. In addition, as required by the Interim GO, each California RTA currently has its own RWP safety plan. As discussed below, when adopting the Interim GO in D.13-10-073, the Commission ensured that the proposed rules reflected the important safety principles of independent redundancy, culture and management to create the safest environment for the roadway workers.

1.2.1. Independent Safety Redundancy and the Swiss Cheese Model

The hallmark of the Interim GO is independent redundancy. It recognizes that no one is infallible and nothing is fail-proof. It therefore requires both multiple and independent layers of protections against a potential "single point failure" accident such that if one protection fails, there are still backup protections to prevent an accident.

Independence of the protections is the key to preventing a "single point failure" accident. As we learned from [the](#) 2013 BART Accident and other similar tragedies, such an accident occurs when multiple protections are wholly reliant on one person, device or system and that one person, device or system fails. That means if that single source of protection fails or is incapacitated, then all of the multiple protections, dependent on that source, also fail.

This safety concept is known as the Swiss Cheese Model of risk management. It uses a Swiss Cheese metaphor where any cheese layer has random and different placement of holes (or opportunities for failures), but other cheese layers with different placements of holes effectively plug the holes in

adjacent cheese layers (to prevent failures and provide independent defenses against failures). Such an approach to safety is critical to effective safety rules.

1.2.2. Safety Culture and Management

The Commission, in the Interim GO, also emphasized the importance of safety culture and management in promoting RWP safety and preventing rail accidents.³ Instead of approaching the safety rules solely as a punitive or disciplinary tool, the Commission devised a framework that recognizes that, to give the safety rules the desired effect of creating a truly safe working environment, there must be the foundation of culture and management that prioritize safety above all else. The Interim GO therefore required each RTA to develop and implement RTA-specific safety plans/programs that prioritize [a](#) safe working environment for the roadway workers⁴ and cultivate a trusted safety culture among the roadway workers and management.

2. Jurisdiction

~~Rail~~[A rail](#) fixed guideway system (or RFGS) is “any light, heavy, or rapid rail system, monorail, inclined plane, funicular, trolley, cable car, automatic people mover, or automated guideway transit system used for public transit and not regulated by the [Federal Railroad Administration] or not specifically exempted by statute from Commission oversight.”⁵ An RTA plans, designs, constructs, and/or operates a rail fixed guideway system.⁶ The Commission has safety oversight jurisdiction over California’s rail fixed guideway systems and RTAs. Specifically, California Public Utilities Code⁷ Section 99152 provides:

³ See D.13-10-073 at 28, 29, 35 and Findings of Fact 3.

⁴ See The Interim GO, Section 1.2.

⁵ See GO 164-D, Section 2.15.

⁶ *Id.* at Section 2.16.

⁷ All references to “Code~~”~~,” “Section” or “Sections” are to California Public Utilities Code, unless otherwise specified.

Any public transit guideway planned, acquired, or constructed, on or after January 1, 1979,[]is subject to regulations of the Public Utilities Commission relating to safety appliances and procedures.

The [C]ommission shall inspect all work done on those guideways and may make further additions or changes necessary for the purpose of safety to employees and the general public.

The [C]ommission shall develop an oversight program employing safety planning criteria, guidelines, safety standards, and safety procedures to be met by operators in the design, construction, and operation of those guideways. Existing industry standards shall be used where applicable.

The [C]ommission shall enforce the provisions of this section.

As for the RTAs in operation prior to January 1, 1979, other Code Sections specifically outline the Commission's jurisdiction. Examples of these jurisdiction-conferring statutes are Section 29047 for BART, Section 100168 for the Santa Clara Valley Transit Authority (VTA) and Section 30646 for the Los Angeles County Metropolitan Transportation Authority (LACMTA).

Section 29047 provides, in pertinent part, that:

The [Bay Area Rapid Transit] district shall be subject to regulations of the Public Utilities Commission relating to safety appliances and procedures, and the [C]ommission shall inspect all work done pursuant to this part and may make such further additions or changes necessary for the purpose of safety to employees and the general public. The [C]ommission shall enforce the provisions of this section

Section 100168 is identical to the above-cited portion of Section 29047 and provides for the Commission's rail transit safety jurisdiction over the VTA.

Section 30646 does likewise for the LACMTA, adding that it: "... shall [also] be

subject to the jurisdiction of the Public Utilities Commission with respect to safety rules and other regulations governing the operation of street railways.”

Generally, as to all RTAs, Section 778 provides: “The [C]ommission shall adopt rules and regulations, which shall become effective on July 1, 1977, relating to safety appliances and procedures for rail transit services operated at grade and in vehicular traffic....”

The Federal Transit Administration (FTA) also identified the Commission as the State Safety Oversight Agency for the RTAs in California under Title 49 C.F.R. Parts 659, *et seq.* As such, the Commission has additional federally-mandated safety and security oversight responsibilities over rail fixed guideway systems and the RTAs.

Based on the foregoing authorities, the Interim GO was adopted, and GO 175-A is being adopted to supersede GO 175, as discussed in this decision.

3. Pertinent Developments since Adoption of the Interim GO

Below, we summarize the pertinent developments since the Commission’s adoption of the Interim GO: (a) The Commission adopted its new Safety Policy Statement; (b) The National Transportation Safety Board (NTSB) completed its investigation of the 2013 BART Accident; (c) The RTAs implemented the Interim GO requirements; and (d) The RTAs submitted requests for variance/exemption/waiver, and filed comments and updates of the progress of their experiences under the Interim GO.

3.1. Commission’s Safety Policy Statement

On July 10, 2014, the Commission adopted the Safety Policy Statement. It restated the Commission’s long-held safety principles, mission and goal, and declared that the Commission’s overarching safety mission and goal are to assure that the regulated utilities Californians depend on for critical services are as safe

and resilient as they can possibly be.⁸ It applies to safety oversight over the rail fixed guideway systems and the RTAs in California.

In it, the Commission declared its ultimate safety goal as “... zero accidents and injuries across all the utilities and businesses we regulate, and within our own workplace.”⁹ To achieve that goal for the RTAs and roadway workers, the Commission:

- (1) Is working to improve the overall safety culture and management of the railroad industry by, *inter alia*, identifying and mitigating or eliminating safety hazards, enforcing existing safety regulations, and developing new safety solutions, approaches and regulations; and
- (2) Has embraced the Safety Management System approach as the way to strengthen safety culture of the regulated entities.

The Safety Management System approach includes the following four components and applies to the RTAs and the roadway workers:

Safety Policy – The overarching policy is zero accidents as stated above, including the leadership and management strategies necessary to carry out the policy and vision. Safety policy specific to a RWP GO includes, *inter alia*:

- Developing an organizational structure, with each part of the organizational structure having a specific role in contributing to the culture of accident prevention.
- Improving safety reporting to track useful and detailed information, including near-miss reporting and detailed safety incidents and remedial actions documentation.
- Focusing on safety, accident-prevention, and effective remedial action, and focusing less on blaming the

⁸ See Safety Policy Statement at 1 (The Commission’s overall mission is to protect consumers and ensure the provision of safe, reliable utility service and infrastructure at reasonable rates, with a commitment to environmental enhancement and a healthy economy). A copy of the Safety Policy Statement can be found at <http://www.cpuc.ca.gov>.

⁹ *Id.* at fn. 2.

victim(s) or the particular worker(s) proximal to the accident.

- Cultivating and training to reinforce safety practices and culture of situational awareness and mindfulness.
- Striving for zero-accidents.

Risk Management – The RTAs should make proactive efforts to identify, assess, and track hazards or risks, and eliminate or mitigate the same.

Safety Assurance – The RTAs should be held ~~accountability~~[accountable](#) for safety compliance and best practices.

- The RTAs should implement safety practices including implementing, updating and improving safety rules, as needed.
- The RTAs should train, supervise, performance monitor, oversee, inspect, investigate, enforce safety rules and ~~holding~~[hold](#) individuals accountable, where appropriate.
- The Commission should provide safety regulations.
- The Commission should conduct independent safety oversight review, inspections, investigations, performance monitoring, and compliance enforcement.

Safety Promotion – To prioritize safety, the RTAs should promote safety issues as part of human resource review practices and provide related safety training and other necessary support.

3.2. The NTSB's Findings of the 2013 BART Accident

The NTSB completed the 2013 BART Accident investigation.¹⁰ Upon commencing its investigation, the NTSB made the below urgent recommendations to the FTA requesting the FTA to:

1. Issue a directive to all transit properties requiring redundant protection for roadway workers, such as positive train control, secondary warning devices, or shunting. (R-13-39) (Urgent)

¹⁰ The NTSB was the principal investigating agency on the scene of the 2013 BART Accident and SED investigators participated in that investigation.

2. Issue a directive to require all transit properties to review their wayside worker rules and procedures and revise them as necessary to eliminate any authorization that depends solely on the roadway worker to provide protection from trains and moving equipment.
(R-13-40) (Urgent)¹¹

On April 13, 2015, the NTSB also issued its Railroad Accident Brief¹² concerning its investigation of the 2013 BART Accident and made the following factual determinations:

1. On the day of the 2013 BART Accident, two engineering department employees planned to take measurements at a location where a minor defect was detected on one of the BART's track (near Walnut Creek). The two employees were a BART manager and a BART contract employee, and at the time, they were working as roadway workers because of the BART workers' strike that was in progress.
2. At the time of the accident, BART had in place its Operations Rules and Procedures Manual (BART Manual), and BART train operators and roadway workers were required to comply with the provisions of the BART Manual. Additionally, BART's roadway workers were required to complete wayside safety training and certification as part of the mandatory Wayside Safety Program. BART's Wayside Safety Program consisted of general safety practices.
3. At the time of the accident and as part of BART's approved safety procedure, BART used what is commonly known as "simple approval" procedure. This "simple approval" procedure required the employees to first contact BART's control center and secure an authorization to enter the roadway, and when a simple

¹¹ The NTSB's Recommendation to the FTA (R-13-39 (Urgent) and R-13-40 (Urgent), dated December 19, 2013 (*See* Attachment D to this decision at 5).

¹² The NTSB Railroad Accident Brief 15-03 (attached to this decision as Attachment E). *See id.* ¶ at 3. (Under 49 U.S. Code Section 1131, the NTSB has authority to investigate and establish the facts, circumstances, and cause or probable cause of a railroad accident in which there is a fatality or substantial property damage, or that involves a passenger train.)

approval authorization is requested, BART's control center was supposed to remind the requesting workers that they were required to provide their own protection and not interfere with mainline or yard operations. Under simple approval, BART roadway workers were required to be aware of train and equipment movements and provide for their own protection using their own judgment.

4. At the time of the accident and as part of BART's approved safety procedure, BART also had a watchperson rule prohibiting its roadway workers from performing work without a watchman/lookout when they were close enough to a rail to be struck by a moving train or other equipment.¹³ Under this rule, the watchperson's sole responsibility was to watch for approaching trains or equipment – on any track, at any time, and in any direction.
5. On October 19, 2013, and prior to entering the roadway, the two BART workers contacted, requested and received simple approval authority from the control center to enter the roadway in accordance with BART's "simple approval" rules.
6. Based on review of the recording from BART's mounted digital audio and video recorder above the operator's seat in the lead car which was positioned to record the operator and the car control panel, NTSB investigators determined that at 1:43:45 p.m. train 963 entered and quickly exited the Walnut Creek Station in the direction of the Pleasant Hill Station without stopping. Eight seconds later, the train accelerated to 44 mph. The train's speed increased to 68 mph within 28 seconds. At 1:44:23, the operator trainee repeatedly pushed the red emergency stop button and repeatedly shouted, "Look out!" and "No, no, no!" Less than five seconds later, the train struck the two employees who were standing between the rails of the track.

At the time of the 2013 BART Accident, BART's rules required a separate designated watchperson. That watchperson's sole duty was to look for

¹³ *Id.* at fn 2. BART refers to this as "fouling the track."

approaching trains and alert the roadway worker in case there is an approaching train. The NTSB determined the probable cause of the 2013 BART Accident to be ~~the~~ BART's procedure which allowed the two workers (roadway worker and watchperson) to be on the track without additional independent safeguards. So, if that watchperson either had to or chose to work together with the roadway worker on a task, or if that watchperson became either disabled or distracted, the intended protection of having that watchperson would be lost without any other remaining protection. Accordingly, the NTSB's findings were that BART's rules failed to adequately anticipate human factors and failed to provide for the needed independent redundant safety protection.

The NTSB also compared BART's rules, in effect at the time of the 2013 accident, with the requirements of the Interim GO that the Commission adopted 12 days after that accident. The NTSB observed that the Interim GO provides additional and independent safety protections which addressed the safety issues and concerns that were later identified during the NTSB investigation of the 2013 BART Accident.¹⁴

3.3. Proceeding Activities Including Interim GO Implementation

The RTAs and the SED implemented the directives of D.13-10-073 and the Interim GO. On March 5, 2014, another prehearing conference was held and attended by most of the parties to this proceeding. The parties also filed updated prehearing conference statements detailing their respective Interim GO implementation experiences and challenges. The SED Staff also made site visits to the RTAs, held meetings, and reviewed the RTAs' RWP safety plans.

On December 22, 2014, the SED submitted a draft report and recommendations (Draft Recommendation) which outlined its analysis of the

¹⁴ See *id.* at 5.

implementation issues and the 2013 BART Accident, and proposed some updates and refinements to the Interim GO. The Draft Recommendation was circulated for comments. On March 31, 2015, the SED submitted its updated set of recommendations (Final Recommendation), which, too, was circulated for comments. The Final Recommendation also included SED's review of:

1. The parties' formally filed comments, including comments on the Draft Recommendation, proposing various recommended revisions to the Interim GO;
2. The parties' proposals as well as all other potential revisions based on the SED Staff's and RTAs' experiences with the Interim GO to enhance the Interim GO provisions; and
3. The parties' informal comments, discussions, and experiences gathered by the SED Staff through workshops, site visits and meetings with California's RTAs and the unions that represent the roadway workers.

In the Final Recommendation, the SED's key recommendation was that the Commission reaffirm and embolden its commitment to the safety principles of independent redundancy, culture and management by adopting the proposed GO 175-A that retains the majority of the Interim GO provisions. The SED's other recommendations were to incorporate some new and modified provisions that (1) reinforce independent safety redundancies as well as safety culture and management, (2) clarify to eliminate ambiguity, and (3) add flexibility to adapt the requirements to fit with differing operational systems. The SED also recommended that the Commission make certain minor, clerical and otherwise non-substantive corrections to GO provisions.

The following parties filed comments to the Final Recommendation:

- BART Comment, dated April 21, 2015.
- LACMTA Comment, dated April 22, 2015.

- SRTD Comment, dated April 22, 2015.
- VTA Comment, dated April 22, 2015.

These comments were consistent with SED's Final Recommendation, and proposed (1) some substantive revisions to the GO provisions, (2) clarifications of certain GO provisions and (3) revisions that would allow some flexibility to certain provisions.

3.4. RTAs' Variance/Waiver/Exemption Requests

The Interim GO permits the RTAs to seek exemptions (also referred to as variances and waivers) or modifications of its requirements, as applied to a particular RTA. Such a request must include a detailed justification and demonstrate that safety would not be reduced.¹⁵ Since the adoption of the Interim GO, some of the RTAs have submitted waiver requests based on their operational constraints and concerns or because of conflicting Federal and State requirements. The status and dispositions of those requests are discussed below.

3.4.1. LACMTA's Waiver Request and Resolution ST-164

LACMTA requested and was granted a waiver from the flagging requirements after demonstrating its difficulties in performing some tasks such as walking track inspections and trash collection/removal along portions of its system. LACMTA demonstrated that its placement and use of flags caused a very slow process that resulted in train traffic congestion during movement restrictions. The grade crossing gates were deployed for lengthy periods, streets became congested, and motorists and pedestrians became frustrated, which caused risk-taking behaviors (e.g. pedestrians and motorists attempting to move through the crossing while ignoring the crossing barriers or making erratic turns

¹⁵ See The Interim GO, Section 1.5.

in congestion to find detours, etc.). The SED supported the LACMTA's requested waiver, including the proposed alternative protections, and Resolution ST-164 was issued by the Commission on June 13, 2014, approving the request.

3.4.2. BART OAC's Waiver Request and Resolution ST-179

BART Oakland Airport Connector (OAC) requested and was granted a variance (waiver/exemption) from the Interim GO requirements such that the Automatic Train Operations' (ATO) speed of 28.4 miles per hour (mph) is incorporated as the maximum permitted train speed.

The Interim GO requires a 25 mph maximum train speed for certain activities when roadway workers are near the track or for trains to enter work zones. BART's ATO speed of 28.4 mph is the automatically regulated normal maximum speed for the BART OAC Automated People Mover (APM) system so they always move at the speed of 28.4 mph as the maximum speed.

The BART OAC contends that it would be safer to allow the BART OAC system to establish the 28.4 mph as that top speed so that the cable driven system speed would not be required to be changed for certain activities, which would have a deleterious effect on the BART OAC system operations. Even though this 28.4 mph is slightly above the Interim GO speed limitation, the BART OAC has demonstrated that there are other independent safety measures, which are in place and which will compensate for the slight increase in allowed speed. Additionally, the BART OAC notes that the 25 mph was established largely for traditional rail transit systems with much greater speed ranges, (up to 79 mph), so that trains would slow significantly to 25 mph before passing work crews.

We recognize that the BART OAC system is not a traditional rail transit system, but is a driverless APM system driven by a looped cable arrangement,

operating just a few mph above the Interim GO maximum of 25 mph. In addition, adjacent but separate walkways run along the side of the guideway, providing separated walkways for employees and operations and maintenance activities. Moreover, when the guideway or vehicles are worked on, the lock out/tag out procedures are employed or the vehicle is moved off the guideway.

The SED Staff supported this request, believed that it will not have an adverse effect ~~on~~[on](#) system safety, and recommended granting the requested waiver to the Interim GO, Sections 6.1.c, 6.3.d.i. and 6.3.e such that the ATO speed of 28.4 mph is incorporated as the maximum restricted speed for train protection. Based thereon, on December 17, 2015, Resolution ST-179 was adopted and BART OAC was granted permanent variance (waiver/exemption) from Interim GO Sections ~~6.1~~[6.1](#).c, 6.3.d.i, and 6.3.e.

3.4.3. BART's Waiver Requests and Resolution ST-180

Section ~~8.48.4~~[8.48.4](#).a of the Interim GO requires each RTA to retrain all roadway workers and employees with RWP responsibilities on the RWP training program for roadway workers at least once every 24 months. BART requested and was granted a variance (waiver/exemption) from Section ~~8.48.4~~[8.48.4](#).a of the Interim GO, to allow BART to continue the recertification of Station Agents every three years per the BART Employee Certification Plan. BART has classified all Station Agents as roadway workers even though they seldom go into the trackway and when they do, very limited trackway is accessed for a minimal duration. In fact, BART modified the Station Agent recertification program to include a new Interim GO module, raising awareness of RWP and enhancing overall Station Agent safety.

Currently, BART's Station Agents have completed the Interim GO RWP certification training and are trained roadway workers. The current Station

Agent duties include RWP responsibilities and safety rules in full compliance with the Interim GO. Under BART's Employee Certification Plan, BART has been recertifying its Station Agents every three years. This three-year recertification cycle has been in place a long time. It would be challenging for BART to change this training cycle to every two years. All other job classifications that have RWP responsibilities at BART are recertified every two years in accordance with Section [8.48.4.a](#) of the Interim GO.

The SED's Staff reviewed this request, believed that it will not have an adverse effect on roadway worker or on system safety, and supported granting the requested permanent variance (waiver/exemption) to Section [8.48.4.a](#) of the Interim GO. Based thereon, on December 17, 2015, Resolution ST-180 was adopted and BART was granted the requested variance.

BART also requested and was granted a variance (waiver/exemption) from the Interim GO, Sections 6.1.c, 6.3.d.i. and 6.3.e, such that BART's ATO speed of 27 mph is incorporated as the maximum permitted train speed. BART asserts that it is safer to impose a speed restriction by using the 27 mph ATO maximum speed restrictions (via key-activated switches in the local Train Control Room through BART's vital ATP subsystem) than by requiring train operators to operate trains through a work area in manual mode to comply with the Interim GO speed limit of 25 mph.

We acknowledge BART's ATC System and its ATO and ATP subsystems were designed to have 27 mph as the restricted speed for the system, and in practice actual train speeds achieved under that speed restriction are quite close to the 25 mph required by the Interim GO. We generally agree with BART's strategy of limiting manual operations, and concur that trains running in ATO at a restricted speed of 27 mph provide more protection and safety than trains operating in manual mode attempting to achieve the 25 mph limitation.

The SED's Staff has reviewed this request, believed that it will not have an adverse effect on roadway worker or on system safety, and supported granting BART a permanent variance (waiver/exemption) from the Interim GO, Sections 6.1.c, 6.3.d.i, and 6.3.e, such that the ATO speed of 27 mph is incorporated as the maximum restricted speed for train protection. Based thereon, on December 17, 2015, Resolution ST-180 was adopted and BART was granted the requested variance.

3.4.4. Other Pending Waiver Requests

The SED is currently evaluating and working with the North County Transit District and Sacramento Airport, on the below pending requests for variances from the Interim GO requirements:

- a) The North County Transit District indicates it has to meet the requirements of 49 CFR 214, as its heavy rail Coaster passenger trains have to meet Federal Railroad Administration regulations, and it would be impractical to attempt compliance with both the Commission's and federal requirements, depending on what rail line workers were working on.
- b) Sacramento Airport has requested a waiver for its APM trains, and indicates it never works on its vehicles or guideway without using lock-out/tag-out procedures that prevent the vehicle from movement, thus not needing a RWP program. Staff is reviewing their operations in the context of the GO requirements to determine whether it supports a waiver or will require a RWP program that specifies the lock-out/tag-out process and assures redundancies on that process to prevent failures in it. The SED also expects likely similar requests to come from other APM systems such as the Getty Museum APM system.

4. Discussion

Since the adoption of the Interim GO, there have been considerable developments surrounding the Interim GO and the safety of California's roadway workers.

First, we recently adopted our Safety Policy Statement that confirms the Commission's long-held safety principles, mission and goal. It provides the context for our review of the Interim GO.

Second, the lessons from the BART 2013 Accident investigation as well as our review of numerous RTA accidents which triggered this OIR, remind us that:

- a) Human errors must be expected;
- b) Multiple and independent safety redundancies are needed to avoid "single-point failures"; and
- c) Safety culture and safety management must be prioritized and be designed and reinforced into the safety practices and procedures as embodied [in](#) the Interim GO.

Third, the record shows that the Interim GO provisions have largely proven to be effective, with a few exceptions as follows:

- a) Certain provisions should be added or modified to strengthen the safety requirements;
- b) Certain provisions should be clarified to eliminate ambiguity; and
- c) Sometimes, certain RTAs' operations are so unique that a one-size-fits-all safety approach mandated by a general order may not yield the safest outcome, and in those instances, flexibility should be allowed to best achieve the safest outcome.

Lastly, as shown by the comments on the Interim GO implementation experiences and the status of the various waiver requests (*see* Section 3.4 of this decision), several of the RTAs are concerned with the applications of the Interim

GO provisions to their particular operations. Many of those concerns have been and are being effectively addressed through the exemption and modification process established under Section 1.5 of the Interim GO, as discussed above in Section 3.4. In addition, much of the clarifying revisions we adopt in this decision and GO 175-A, also address the remainder of those concerns.

Based thereon, this decision revisits the Interim GO and adopts GO 175-A which incorporates further safety refinements, as discussed below.

4.1. Retain Overall Framework and Commitment to the Guiding Safety Principles and Approaches

In adopting the Interim GO, the Commission developed a solid framework for safety rules that prioritize roadway workers' safety above all else. Those rules reflected the essential safety principles to create the safest environment for the roadway workers. They included independent and redundant safety rules/requirements, safety briefings, early warning technology (safety technology), safety trainings, near-miss reporting programs, and so on -- all of which prioritized and reinforced the safety practices and procedures. They also reinforced the importance of safety culture and management.

The comments in this proceeding confirm that the approach taken in the Interim GO of placing the highest priority on safety redundancies, culture and management, have proven largely to be effective. We are also mindful of the lessons from the transit accidents triggering this OIR and our recent lessons from the 2013 BART Accident. Those tragedies and our recently adopted Safety Policy Statement embolden our commitment to safety. We are more certain today that multiple and independent redundant safety requirements of GO 175-A (supported by both safety culture and management) are essential to an effective RWP GO, and that such requirements will effectively prevent future "single-point failures," similar to what occurred in the 2013 BART Accident.

In general, Table 1 below illustrates the independent safety redundancies we require under GO 175-A for different levels and types of work.

**Table 1:
Independent Redundancies in Protection
(Summary of Sections 6.1 to 6.3 of GO 175-A)**

TYPE OF WORK PROTECTIONS REQUIRED

Lowest Level of Protection Required

Moving from one location to another with full attention on surroundings:

1. Establish authorization for the identified work area, and
2. Must be able to comply with 15-second rule.

Speed restrictions when workers must occupy tunnels or elevated structures on emergency walkways clear of being struck by trains, but with insufficient clearance to remain clear of the track zone.

Intermediate Level of Protection Required

Performing minor tasks with sufficient attention to surroundings:

1. Establish authorization for identified work area, and
2. Notification given to train operators, and
3. Notification of reverse direction and other abnormal train movement provided to roadway worker, and
4. Must be able to comply with 15-second rule, and
5. Neither the train operator nor the roadway worker can enter the work area unless they establish communication with each other, directly or through the rail operations control center, and the roadway worker must communicate permission to pass through.

Highest Level of Protection Required

All other tasks, including the use of tools, machines, or other equipment:

1. Establish authorization for identified work area, and
2. Communication between the controller, train operator, and EIC, and
3. Notification of reverse direction and other abnormal train movement provided to roadway worker, and

**Table 1 (continued):
Independent Redundancies in Protection
(Summary of Sections 6.1 to 6.3 of GO 175-A)**

Intermediate Level of Protection Required

~~Performing minor tasks with sufficient attention to surroundings:~~

- ~~1. Establish authorization for identified work area, and~~
- ~~2. Notification given to train operators, and~~
- ~~3. Notification of reverse direction and other abnormal train movement provided to roadway worker, and~~
- ~~4. Must be able to comply with 15-second rule, and~~
- ~~5. Neither the train operator nor the roadway worker can enter the work area unless they establish communication with each other, directly or through the rail operations control center, and the roadway worker must communicate permission to pass through.~~

Highest Level of Protection Required

~~All other tasks, including the use of tools, machines, or other equipment:-~~

- ~~1. Establish authorization for identified work area, and~~
- ~~2. Communication between the controller, train operator, and EIC, and~~
- ~~3. Notification of reverse direction and other abnormal train movement provided to roadway worker, and~~
4. On-rail vehicle movement into the work zone must be controlled by one or more of the following:
 - i. Flags, watchpersons, and restricted speed. Trains stop before entering work area and proceed only after the train operator communicates with EIC and is given a proper signal to proceed.
 - ii. Early warning electronic device with a watchperson and speed reductions.
 - iii. Physically preventing entry and movement of rail transit vehicles into the work zone.
 - iv. Restricting work to times when propulsion power is down.
 - v. For RTAs with positive train control systems red signals and/or stop commands.
5. EIC controls rail movement at reduced speeds, and
6. Electronic early warning device required after November 7, 2017.

As illustrated above, under GO 175-A, even the simplest task of moving from one location to another through the track zone requires two independent safety redundancies, with an additional redundancy when work is done in tunnels or elevated structures. The number and type of independent redundancies increase as the complexity of task increases. Thus, the workers are assured the needed protection commensurate with their task(s). The safety

measures are implemented by separate sources, such that if one fails, there would still be sufficient remaining protection.

We can also apply GO 175-A to what occurred in the 2013 BART Accident, when a worker is in the track zone with a hand tool. Table 2 below illustrates the independent and redundant safety rules required under GO 175-A:

Table 2:
Independent Redundancy in Protection of GO 175-A
(BART 2013 Accident)

Before entering the track zone, a **roadway worker** must:

- Receive permission to occupy the work zone from the EIC, who must: (1) Establish authorization from the controller to occupy the work zone; (2) Establish communication with the train operator and controller, (3) Ensure flags are in place, and (4) Ensure a watchperson is on duty.
- Be notified of any reverse movements.

Before authorizing entry into a track zone, a **controller** must:

- Communicate with the train operator and the EIC, providing authorization.
- Instruct train operators to proceed at a slower speed where he or she will have time to see any workers and to stop well short of them (half the range of vision), or set codes that ensure such speeds.
- Inform the roadway worker or EIC of any reverse movements.

Before entering the work area, a **train operator** must:

- Stop at any designated points.
- Not proceed past any stopping point until receiving clearance from the EIC.
- Operate at a speed where he or she will have time to see any workers and to stop well short of them (half the range of vision).
- Be in communication with the EIC and controller.
- Obey flags and/or flagpersons.

Table 2 illustrates the independent and redundant approach of GO 175-A that differs from BART's rules in effect at the time of 2013 BART Accident (BART's 2013 Rules). Although the BART's 2013 Rules required a watchperson to be on the lookout for approaching trains with no other duties, it was still

subject to a single-point failure where more than one safety measure could fail from one source (the watchperson) while leaving no backup protection.

Based thereon, in this decision and GO 175-A, we reaffirm the RWP GO framework established in the Interim GO and our continuing commitment to safety and safety approach that protect against such failures, including single-point failures. GO 175-A therefore retains the majority of the Interim GO provisions we previously adopted.

4.2. Revisions

The majority of the Interim GO provisions have been successfully implemented without concern. The parties, however, have raised a few concerns and suggested revisions to refine certain provisions. The parties' comments concerning the implementation of the Interim GO fall into three categories, and they are addressed below. The first includes requests and substantive proposals for revisions. The second seeks clarifications or flexibility of provisions, as applied to the unique or special unforeseen operational circumstances of the RTAs. The last category seeks minor corrections and other miscellaneous revisions.

In response, GO 175-A incorporates some new and modified provisions, where appropriate, that (1) reinforce independent safety redundancies as well as safety culture and management; (2) clarify to eliminate ambiguity; and (3) add flexibility to adapt the requirements to fit with differing operational systems.

4.2.1. Substantive Revisions Based on the Interim GO Implementation Experiences

We have evaluated the requests to make substantive revisions to certain Interim GO provisions. The proposed revisions are discussed below in the order they appear in GO 175-A. We discuss and adopt those proposed revisions (as reflected in GO 175-A) that strengthen the effectiveness of the GO, add more

clarity and meet the operational needs of the RTAs, without sacrificing safety. We reject proposed revisions that are not sufficiently justified. The proposed revisions we adopt are reflected in GO 175-A.

**4.2.1.1. Section 1.3 (Applicability) & New
Section 8 (Emergency Response
Personnel)**

In response to the SED's Draft Recommendation, several RTAs raised concerns relating to the GO requirements affecting emergency response personnel or RTA personnel at an accident location. Some RTAs contend that emergency response could be hindered if RTA personnel at an accident site needed to comply with the GO requirements while also complying with other safety requirements specifically governing emergency response personnel and activities. These RTAs note that the Interim GO requirements were not intended to govern accident response, emergency response personnel or activities. Instead, those provisions were intended to apply to daily non-emergency roadway workers' safety situations. Those RTAs contend that to apply the rules for non-emergency situations to emergency situations would be illogical; and more importantly, it would be unsafe because the emergency responders' attention would be diverted to the GO safety requirements instead of their priority tasks of emergency response actions, resulting in compromised emergency response.

While safety should always be a priority, even in emergency response situations, we acknowledge that competing safety rules can add to confusion in emergency response scenarios that may lead to unintended delays in emergency response and otherwise less effective emergency response. Therefore, we find that RWP GO requirements should not take precedence when there is a need for RTA personnel to render immediate aid or to respond to an imminent

life-threatening emergency. Therefore, we added exceptions in Section 1.3, “Applicability” for this purpose, as reflected in GO 175-A.

Section 1.3 now provides, in relevant part:

These rules and regulations are applicable to all *RTAs* in California. These rules and regulations do not prohibit *RTAs* from implementing rules that provide greater safety. These rules and regulations do not apply to:

- a. Fire protection and law enforcement personnel.
- b. *Employees* responding to a life-threatening emergency.

While we make the above exceptions, we maintain the GO safety requirements for the roadway workers in cases where an accident occurs and the adjacent track continues to provide for train movements. The *RTA* personnel working on or near those adjacent areas need to be protected, even if an accident response is occurring on a nearby track.

Also, in anticipation of emergency response concerns, we added a new Section 8 (with the prior Sections 8 and 9 renumbered to Sections 9 and 10). It requires the *RTAs* to devise and include specific plans designed to protect emergency response personnel during emergencies and to include them in their respective RWP programs and plans. The *RTAs* are also required to conduct outreach, education and training in coordinating with emergency responders in their service territories, including emergency training drills. This new section also requires that the *RTA* ensure that *RTA* personnel who may respond to emergencies, who may not otherwise receive RWP training, are trained in the RWP provisions of the agency.

With the above revisions and the new sections reflected in GO 175-A, the *RTAs* can meet the GO safety requirements and the emergency responders can provide effective response to accidents and emergencies.

4.2.1.2. Section 1.3 (Emergency Response, Training and Drill)

In its Comment to the SED's Final Recommendation, SRTD requests that RTA staff be exempted from the requirements of Section 1.3 when assisting during an emergency response, training emergency response personnel, or when conducting emergency drills. Section 1.3b of GO 175-A already exempts RTA employees during life-threatening emergencies. As for emergency response training and drill, there is insufficient justification to exempt RTA staff engaged in those non-emergency activities. We reject this part of the request.

4.2.1.3. Section 2.2 (Division)

In GO 175-A, we refer to the SED as "the Division." We believe "the Division" will withstand potential future division name changes. We also define the term "Director" in a new definition added as Section 2.2, which specifies that "Director" means the Director of the Commission's division overseeing rail transit safety, or the Deputy Director overseeing rail transit safety.

4.2.1.4. Section 2.8 (Minor Tasks and Camera Use)

Several RTAs request that the Interim GO rules for taking photographs as provided for in Section 2.8 should be modified or otherwise clarified. Currently, taking photographs generally is on the list of minor tasks, which pursuant to Section 6.2, do not require the full level of worker protections listed in Section 6.3. However, if multi-function electronic devices (such as cellular/mobile phones) are used, Section 6.3 would require that higher level of protection.

As noted by SED, there is a heightened safety concern surrounding the multi-function electronic devices where roadway workers use their electronic devices that are also used for making and receiving phone calls or text messages

(such as cell phones, smart phones or iPads). Such devices are highly distracting, and upon incoming audible notification of a phone call or text message, roadway workers may become distracted and lose the safety-critical situational awareness.

LACMTA opposed differentiating the multi-functional devices. Instead, LACMTA argued for GO revisions that would only restrict uses of other functions of such devices while the camera feature is being used on such devices. We are not persuaded that such revised rule proposed by LACMTA (restricting the functions of the devices) can be effectively enforced.

Often times, the act of taking a picture by a roadway worker would involve a single worker in the track zone away from other employees when no one is there to monitor and enforce that all communication functions of the electronic device are disabled while the camera feature is being used. And if a roadway worker is using an electronic device, an observer (SED inspector or RTA supervisor) will not be able to readily determine if other prohibited communicating functions of the devices are disabled or whether the roadway worker is only using the camera features of the device or whether the worker might be sending or receiving text messages. Such an inspector or supervisor would have to gain immediate access to that particular device to examine the device. And if the employee at the scene refuses to provide immediate access to and inspection of the device to the inspector or supervisor for inspection, then enforcement becomes extraordinarily difficult.

Based on similar enforceability concern and using similar reasoning, a major Class 1 railroad, BNSF, also restricts cameras to standalone cameras, stating¹, ²“A personal standalone camera may be used to take a photograph of a

safety hazard or a violation of a rail safety law, regulation, order, or standard....”¹⁶

Based on the foregoing, we reject LACMTA’s request to revise the rules to restrict the functions of the devices. Instead, we clarify that the intent here is to prevent cellular/mobile phones from being used for photographs under minor tasks, which pursuant to Section 6.2, do not require the full level of worker protections listed in Section 6.3.

Some of the RTAs also requested revisions that would allow the RTAs to acquire a photograph along their tracks and send it electronically to a RTA ground facility. In response, we added language that permits the capability requested. The added clarification and the revisions are reflected in GO 175-A and reads:

d. Taking photographs of a safety hazard or a violation of a rail safety law, regulation, order, or standard using a stand-alone camera that cannot be used for electronic communications; the only exception to the stand-alone requirement may be a send-only feature that can send photos. After each time pressing the camera shutter release to take one photo or a one-second burst of photos, the employee must step out of the track zone to check the surroundings for any hazards, and only when it is safe step back into the track zone to take additional photos. Sending photos is not a minor task.

Some of the RTAs requested revisions that would remove the requirement that the equipment used to take photographs must be issued or approved by an RTA. We find it reasonable to remove this requirement. Such a requirement does not add to the safety goal and may unnecessarily place additional financial

¹⁶ General Code of Operating Rules Committee, GCOR, *General Code of Operating Rules, Sixth Edition, Effective April 7, 2010*, including BNSF’s amendments through August 1, 2011. See section 2.21, Electronic Devices at 2-6.

burdens on the RTAs to provide cameras to their employees if their employees can use their personal cameras which meet the requirements of GO 175-A.

We also make a few additional revisions to this section to add clarity:

1. Add language from Title 49 of the Code of Federal Regulations, Part 220.309, stating that a photograph may be taken, "...of a safety hazard or a violation of a rail safety law, regulation, order, or standard..." in order to clarify that photographs only may be taken for non-trivial reasons.
2. Remove the word "voice" in "electronic voice communications" in order to clarify the reference is to all forms of electronic communications, including text messages.
3. Add the requirement that the individual taking the photo must step out of the track zone and check for safety hazards after each time pressing the camera shutter release, because the SED is concerned that a photographer's attention might be directed to finding and focusing on the subject of the photograph and then reviewing the photograph at the expense of paying attention to the surroundings. The requirement to step out of the track zone after each time the shutter release is pressed will allow the photographer to quickly resume attending to his or her surroundings. Allowing for a short burst of photos in a "continuous shooting" mode will enable the photographer to use an automatic camera feature to take different light-to-dark exposures (i.e., "exposure bracketing") for photo quality without having to return several times to the track zone.

4.2.1.5. Section 2.23 (Combining the Duties of Flagperson and Watchperson)

LACMTA proposed including the functions of a flagger (flagperson) in the definition of a watchperson and requested that a watchperson also be allowed to act as a flagperson because to have both a flagperson and a watchperson would be impractical. The SED opposed this request.

To allow a watchperson to perform any task other than the watchperson's duties would risk distractions or errors as the watchperson must multitask. Having a person solely dedicated as a lookout is fundamental to the safety benefit of having a watchperson. It ensures independent safety redundancy we strongly support and is also supported by the standards of the American Public Transit Association (APTA), which state:

Watchpersons/lookouts assigned to provide train-approach warnings shall devote full attention to detecting the approach of trains and communicating a warning, and shall not be assigned any other duties while functioning as watchpersons/lookouts.

The APTA standard illustrates the important and distinctly differing safety roles and duties of a "watchperson" and the definitions of flagger (flagperson):

flagperson: When used in relation to roadway worker safety, flagperson means an employee designated ... to direct or restrict the movement of trains past a point on a track to provide on-track safety for roadway workers.

watchperson/lookout: An employee who has been trained and qualified to provide warning to roadway workers of approaching trains or on-track equipment.

Based on the foregoing, LACMTA's proposal to include functions of a flagger (flagperson) in the definition of a watchperson is denied.

4.2.1.6. Former Interim GO Section 3.6 (Deleted)

The RTAs objected to the timeline required under the Interim GO that required the RTAs to develop RWP plans, obtain plan approval by the SED Staff, print the new and revised training and reference materials, and train employees. The RTAs request that the Commission extend some of those compliance dates.

Since the adoption of the Interim GO, the SED has worked with the RTAs to review the required RWP plans, advised on interpretations and otherwise assisted the RTAs in attaining compliance. In addition, RTAs' required compliance dates, set forth in the Interim GO, Section 3.6, have passed and are no longer necessary. As such, we delete that section and requirements, which has no future meaning. This revision is reflected in GO 175-A.

4.2.1.7. Section 6.1 (Applicability in Areas of Mix Traffic Operations)

We modify Section 6.1 to refer back to GO 143-B definitions regarding the applicability of Section 6.1 in areas of mixed traffic operations on streets and in pedestrian mall areas. This modification makes GO 175-A consistent with GO 143-B language simply by reference. Section 6.1 has been revised to refer to definition of "non-exclusive alignments" in GO 143-B, common industry terminology, in order to eliminate inconsistency between the two GOs.

4.2.1.8. Section 6.2 (Hand Signal)

Another concern raised by the RTAs was that hand signals under Section 6.2.e.i. are not permitted. The RTAs requested a GO revision that would permit the use of hand signals and argued that a communication by radio is not always the best option. Radio introduces unintended risks with radio traffic when there are multiple crews in the same general area. In some instances, radio traffic could be more difficult to confirm than a visual hand signal. We are persuaded that hand signals should be allowed in addition to radio use, and the corresponding revision permitting hand signal is reflected in GO 175-A.

4.2.1.9. Sections 6.2 and 6.3 (Mixed Traffic Operations on Surface Streets and Public Areas)

SRTD argued that implementing Sections 6.2 and 6.3 is not feasible for SRTD in areas of mixed traffic operations on surface streets and public areas, and requested that it be exempt from these requirements when performing work in these areas. SRTD failed to demonstrate sufficient justification for the requested exemption. SRTD should devise and propose alternative protections, and should confer with other RTAs that have these same circumstances and have implemented those provisions. This request is denied.

4.2.1.10. Section 6.3 and Camera Use

BART noted that BART's rules are more restrictive than the proposed Section 6.3 and that BART only permits picture taking under the highest protections. GO 175-A does not prohibit any RTA from setting higher or more protective safety requirements.

BART noted the GO is silent on whether any camera can be used under Section 6.3. We clarify that, under GO 175-A, Section 6.3, if the camera is used as a "tool" to perform work-related tasks, then it is covered by Section 6.3 permitting tool use.

BART also argued that using a cell phone camera can be no more distracting than using a stand-alone camera. As discussed earlier in this decision, we disagree. Cell phone cameras create an unsafe situation and are difficult to enforce as discussed above. However, a standalone camera could be safely used under all Section 6.3 protections. And with the enhanced protections in Section 6.3 and under 6.3, if (1) a cell phone camera is used as a "tool" for work-related purposes while being rendered incapable of receiving or sending communications, often referred to as "airplane mode" and (2) it is an RTA-issued

cell phone that must be immediately available to a supervisor or inspector upon request, it can be used for taking pictures. When someone is unable to step out of the track zone, under all of the following conditions a work-related picture may be sent:

- The protections of Section 6.3(d), iii, iv, and v are being used.
- No on-track vehicles are working in the work zone.
- The person sending the photograph moves to as safe a location as possible.

4.2.1.11. Section 6.3 (Early Warning Alarm Technology)

SRTD made a series of fundamental objections to the early warning alarm technology and its required implementation date:

- SRTD stated that this technology is not fail-safe.
- SRTD raised a concern about over-reliance on this technology.
- SRTD raised the difficulty of funding the procurement of the technology. (SRTD's Comment to the SED's March 2015 Final Recommendation).

These objections are not new. The Commission has already examined the efficacy of this technology during the LACMTA's implementation of this safety technology.¹⁷ And the Commission has also weighed those concerns prior to ordering this safety technology in D.13-10-073, while allowing four years for the RTAs to implement it, including procuring funding. We do not intend to revisit this issue now.¹⁸ Finally, consistent with the NTSB's and APTA's recommendations, GO 175-A, by design, does not permit the RTAs' reliance on

¹⁷ See Resolution ST-164 which documents SED Staff's work with LACMTA in their testing and implementation of this technology.)

¹⁸ Pursuant to Ordering Paragraph 8 of D.13-10-073, the SED has the delegated authority to extend the deadline for this technology requirement upon showing that such request for extension is justifiably necessary, despite the requesting RTA's reasonable diligence to secure funding, and that the requesting RTA has made a good faith and diligent effort to comply with the required deadline.

this technology as the sole or even primary protection. Based thereon, we reject these objections.

4.2.1.12. Section ~~6.3~~6.3.d (Minimum Controls for Tasks that Require the Highest Level of Protection and Early Warning Alarm Devices)

Section 6.3.d generated extensive comments. LACMTA's comments expressed difficulty understanding several aspects of this section. LACMTA noted that the provisions in this section are intended to allow for the use of an early warning device after November 7, 2017, if it has been reviewed and accepted by the Director, but before that date only upon a showing of good cause and only after review without objections by the Director.

The Interim GO *requires* use of the early warning alarm technology by November 2017. Separately, the SED's review and acceptance is required for instances where an RTA wishes to avoid having to use flags and can justify that use of the early warning technology will provide sufficient safety, such as provided for in Resolution ST-164.

LACMTA already implemented those provisions and presented the required justifications. Resolution ST-164, adopted on June 12, 2014, recognized that LACMTA had justified an alternative to the "flagging" requirement of the Interim GO and found that the proposed use of an early warning device was at least an equivalent alternative. To address any remaining confusion, we clarify the wording in this section and correct the typographical error for the implementation date ordered in D.13-10-073. We make minor clarifications and corrections, as discussed above. LACMTA's request is [otherwise](#) denied.

San Diego Trolley, Inc. (SDTI) commented that requiring implementation of early warning devices in addition to the protections provided in paragraphs

6.3.d.i and ii will effectively handicap SDTI if it chooses not to implement early warning technology by November 7, 2017. SDTI argued that this technology is not fail-safe and the false sense of security that it will provide increases exposure to risk. SDTI informed SED Staff that it conducted a test with ProTran in September 2014, and the test failed due to an overhead induction from electric power lines. SDTI stated electronic devices such as early warning alarm devices may malfunction due to interference. SDTI recommended a review process through the American Railway Engineering and Maintenance-of-Way Association. VTA stated early warning devices should be used as a secondary safety device, because VTA believes it is an unproven technology.

We reviewed the above concerns and are unpersuaded that any revision is justified. The RTAs are reminded that these devices are never to be used alone, and they are also never permitted to be the primary protection. Instead, they must always be accompanied by other independent redundant protections. The GO provides that if an RTA wishes to replace the flags with the early warning device, it must be approved by the SED's Director. In this case, a justification must be provided, and SED Staff would review and evaluate the reliability of early warning devices in the context of the existing redundant safety provisions.

Finally, the Commission delegated authority to the SED's Director to grant any justified extension for the implementation deadline. If the RTAs believe they cannot implement a reliable system as LACMTA implemented, they can provide their respective justifications and the SED's Director may grant extensions.

4.2.1.13. Section 6.3.d.i (Stopping points)

SDTI stated that it is not necessary to make a full train stop as required in Section 6.3.d.i, which required trains to "...always stop at stopping points...." SDTI stated this will negatively impact its on-time service. SDTI claimed that

freight trains using SDTI tracks have problems with momentum loss when they stop, and those freight trains will require significant time and energy to restart after coming to a full stop.

We note that light rail vehicles (LRVs) are never allowed to run on the same tracks when freight trains are running. Freight trains are governed by FRA rules, and GO 175-A cannot be enforced on FRA-regulated railroads. Regarding LRVs, we believe a full stop is a critical safety requirement, unless other sufficient safety protections are implemented. The SED however offers some modified language for this section to allow movement without stopping if additional protections are implemented to assure comparable safety outcome.

In Section 6.3.d.i, BART recommends adding “points” at the end of the following requirement for consistency: “Trains must always stop at stopping points, even if prior to stopping they had received permission to proceed after stopping points.” We believe the clarified text of this section addresses this issue.

4.2.1.14. Operator Efficiency Checks

SRTD stated that it is necessary for a supervisor performing an efficiency check (e.g. rules compliance test) to access the track zone. SRTD argued that the notification requirements to precede entry to track zone in various sections of the GO would negate the effectiveness of any intended unannounced tests and inspections. SRTD requested that such tests be exempted from the GO’s notification requirements. That request is denied at this time, without prejudice. We appreciate SRTD’s concern. Rather than leave supervisors unprotected by GO 175-A’s notification requirements, SRTD should devise and propose to the SED alternatives to notifications that the operator would receive or hear, while maintaining an appropriate level of safety. Without the details from SRTD regarding these tests and what SRTD may devise and propose as an alternative

(or alternatives) with sufficient safety redundancies, it is not prudent to change the requirements of GO 175-A. The SED Staff should work with SRTD to address any specific concerns and alternatives. A separate exemption may be required if SRTD is not able to perform these tests as other similar RTAs.

4.2.1.15. Section 8 (Protections for Non-RTA Emergency Response Personnel)

Some RTAs expressed concerns that they cannot force non-RTA emergency responders such as fire and police department personnel to undergo the training required in this section. We note, this section only requires the RTAs to offer non-RTA emergency responders the opportunity to receive training. If those agencies decline the offer, the RTAs will have complied with this section.

We believe the term “periodic training” is vague, and should be clarified as follows: “No less than every two years RTAs shall offer training to non-RTA emergency response personnel in their service territory.”

4.2.2. Clarifying Revisions

Since the implementation of the Interim GO, the RTAs have sought general clarifications of various provisions as well as clarifications of certain provisions to permit flexibility to those provisions. In fact, the majority of the requests and comments involve individual RTAs seeking clarifications of select provisions.

In response, we adopt Attachment B to this decision, Index of Requests Seeking Clarification, which sets forth the proposed clarifications and corresponding dispositions. As reflected in Attachment B, if the proposed clarification is justified, we either adopt it or a modified version of it. If we find that (1) there is insufficient justification provided, (2) there is no ambiguity to be clarified, and/or (3) we may not need to add the clarifications or modifications,

we decline to revise those provisions. In the latter instances, we note, the RTAs may opt to seek future exemptions (also referred to as waivers) or modifications under Sections 1.5 or 2.8 of GO 175-A:

- 1.5 Exemptions or Modifications. Requests for exemptions or modifications from these rules and regulations shall contain a full statement of the reasons justifying the request. A request must demonstrate that safety would not be reduced by the proposed exemption or modification. Any exemption or modification so granted shall be limited to the particular matter covered by the request and shall require Commission approval.
- 2.8 *Minor tasks* are defined ... Tasks and tools not listed herein may be performed and used upon written request to the *Director* with copy to the affected *employees'* labor union representative(s) and written concurrence from the *Director*.

In some situations, RTAs' operations are unique and ~~that~~ the safest outcome can only be achieved by recognizing the differing operational constraints of the RTAs to allow for flexible safety mandates. Accordingly, as requested and demonstrated by the parties, GO 175-A incorporates the clarifications that add the necessary flexibility. In addition, the above-cited GO 175-A provisions are specifically designed to make it even more adaptable, when appropriate, to account for operational nuances of different RTAs.

GO 175-A also incorporates other non-substantive minor corrections, which are also noted in Attachment B.

4.3. GO 172 Reconciliation

In its Comments to the Final Recommendation, SRTD raised a possible conflict between the proposed RWP GO's treatment of camera use and select provisions in GO 172 governing personal electronic devices. GO 172 prohibits

the use of electronic devices while “fouling the track” and GO 175-A sets forth rules concerning roadway workers taking photographs with different devices.

SRTD argued that safety rules concerning camera uses in GO 175-A should be covered in GO 172 and not in GO 175-A. We recognize that the two GOs must be reviewed and reconciled, if necessary. The SED is directed to review the two GOs. Within 12 months from the date this decision is issued, the SED shall file and serve its recommendation of any necessary amendments to one or both GOs to eliminate any inconsistencies or conflicts, if any. That recommendation shall be filed in this proceeding and served on the service list of this proceeding. If the SED recommends any changes to GO 172, the recommendation shall also be filed and served on the service list in Rulemaking 08-10-007.

This proceeding shall remain open for the limited purposes of the Commission’s consideration of any recommendation SED files and serves and for the Commission to issue a subsequent decision addressing the recommendation and closing the proceeding.

5. Conclusion

As discussed above, today, we adopt the SED’s proposed version of GO 175-A attached to its Final Recommendation with some modifications, as reflected in GO 175-A (Attachment A). We also adopt Attachment B which is the Index of Comments Seeking Clarification. Attachment C to this decision provides the redlined version of GO 175-A showing all of the revisions from the Interim GO.

6. Comments on Proposed Decision

The proposed decision of Commissioner Carla J. Peterman in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the

Commission's Rules of Practice and Procedure. [No](#) Comments were filed ~~on~~
_____. ~~Reply comments were filed on~~ _____.

7. Assignment of Proceeding

Carla J. Peterman is the assigned Commissioner and Kimberly H. Kim is the assigned ALJ in this proceeding.

Findings of Fact

1. Since the adoption of the Interim GO: (a) The Commission adopted its new Safety Policy Statement; (b) The NTSB has completed its investigation of the 2013 BART Accident; (c) The RTAs have implemented the Interim GO; and (d) The RTAs and the parties have submitted requests for exemption or waiver and filed comments and updates of the progress of their Interim GO implementation experiences.

2. Based on the implementation experiences, the RTAs request some substantive revisions, including additional or modified provisions, as well as clarifications or modifications of certain provisions to add flexibility in view of the differing operational systems.

3. The NTSB determined the probable cause of the 2013 BART Accident to be the BART's procedure that allowed two workers to be on their own to provide for their own protection without any additional independent safeguard; and the NTSB determined that there were not enough independent safety protections.

4. The findings from the NTSB investigation of the 2013 BART Accident support the Commission's overall approach to safety taken in the Interim GO and the emphasis we place on independent safety redundancy and safety culture/management.

5. The SED, in its Final Recommendation, recommended that the Commission:

- (a) Reaffirm and embolden its long standing commitment to the safety principles of independent redundancy, culture and management by adopting the proposed GO 175-A;
- (b) Incorporate some new and modified provisions in GO 175-A that (i) reinforce independent safety redundancies as well as safety culture and management; (ii) clarify to eliminate ambiguity; and (iii) add flexibility to adapt the requirements to fit with differing operational systems; and
- (c) Make other minor, clerical and otherwise non-substantive corrections to certain GO provisions.

6. The Interim GO provisions have largely proven to be effective, with some exceptions as follows:

- (a) Certain provisions should be added or modified to strengthen the safety requirements;
- (b) Certain provisions should be clarified to eliminate ambiguity; and
- (c) In some situations, RTAs' operations are so unique that rigid, one-size fits all approaches to mandate safety through a general order may not yield the safest outcome and in those instances, flexibility should continue to be allowed to best achieve the safest outcome.

7. GO 175-A, Attachment A to this decision, retains the majority of the Interim GO provisions and incorporates some new and modified provisions, where appropriate, that (a) reinforce independent safety redundancies as well as safety culture and management; (b) clarify to eliminate ambiguity; and (c) add flexibility to adapt the requirements to fit with differing operational systems.

8. Attachment B to this decision is the Index of Comments Seeking Clarification, which sets forth the proposed clarifications and corresponding dispositions.

9. There may be a possible conflict or inconsistency between GO 175-A's treatment of camera use and provisions in GO 172 governing personal electronic devices.

Conclusions of Law

1. The revisions to the Interim GO, as reflected in GO 175-A, are reasonable.
2. GO 175-A, Attachment A to this decision, should be adopted to supersede GO 175.
3. The attached Index of Comments Seeking Clarification, Attachment B to this decision which sets forth the proposed clarifications and corresponding dispositions, should be adopted.
4. The Commission should take official notice of the NTSB's Recommendation to the FTA (R-13-39 (Urgent) and R-13-40 (Urgent), dated December 19, 2013, which is attached to this decision as Attachment D.
5. The Commission should take official notice of the NTSB's Railroad Accident Brief 15-03, dated April 13, 2015, concerning its investigation of the 2013 BART Accident, which is attached to this decision as Attachment E.
6. The SED should review GO 175-A and GO 172 and submit a recommendation of any necessary amendments to one or both GOs to eliminate any inconsistencies or conflicts, if any.
7. Rulemaking 09-01-020 should remain open for the limited purposes of the Commission's consideration of any recommendation by the SED concerning possible amendment(s) to GOs 175-A and 172 and for the Commission to issue a subsequent decision addressing the recommendation(s) and closing the proceeding.

O R D E R

IT IS ORDERED that:

1. General Order 175-A, Attachment A to this decision, is adopted.
2. The Index of Comments Seeking Clarification, Attachment B to this decision, which sets forth the proposed clarifications and corresponding dispositions, is adopted.
3. General Order 175-A and all its provisions supersedes General Order 175 and shall take effect immediately, and shall remain in effect until and unless amended, modified or otherwise superseded by a subsequent Commission decision.
4. California's roadway workers and rail transit agencies shall comply with General Order 175-A.
5. We take official notice of the National Transportation Safety Board's Recommendation to the Federal Transit Administration ~~(R-13-39~~ (Urgent) and R-13-40 (Urgent), dated December 19, 2013, which is attached to this decision as Attachment D.
6. We take official notice of the National Transportation Safety Board's Railroad Accident Brief 15-03, dated April 13, 2015, which is attached to this decision as Attachment E.
7. Within 12 months from the issuance of this decision, the Safety and Enforcement Division (SED) shall review General Order (GO) 175-A and GO 172 and submit a recommendation of any necessary amendments to one or both GOs to eliminate any inconsistencies or conflicts, if any. That recommendation shall be filed in this proceeding and served on the service list of this proceeding. If SED recommends any changes to GO 172, the recommendation shall also be filed and served on the service list in Rulemaking 08-10-007.

8. We delegate authority to the Safety and Enforcement Division (SED) Director and the Deputy Director of the SED's Office of Rail Safety to extend the implementation deadlines ordered in this decision, including need for any additional time to test any new systems.

9. As soon as it becomes known that an extension for time to comply with the deadlines ordered in this decision is necessary, each rail transit agency shall submit a written request for extension of time to comply with one or more deadline(s) showing good cause, to the Safety and Enforcement Division (SED) Director and the Deputy Director of the SED's Office of Rail Safety.

10. Rulemaking 09-01-020 shall remain open for the limited purposes of the Commission's consideration of any recommendation by the Safety and Enforcement Division concerning possible amendment(s) to General Orders 175-A and 172 and for the Commission to issue a subsequent decision addressing the recommendation(s) and closing the proceeding.

This order is effective today.

Dated _____, at San Francisco, California.

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